

5

A method includes processing a workpiece in a process flow. Workpiece state trace data is collected for the workpiece during its processing in the process flow. A quality profile of the workpiece is generated based on the workpiece state trace data. A manufacturing system includes a plurality of tools configured to process a workpiece in a process flow and a quality monitor. The quality monitor is configured to collect workpiece state trace data for the workpiece during its processing in the process flow generate a quality profile of the workpiece based on the workpiece state trace data.